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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,529	09/22/2003	Kohichi Yamauchi	1560-0397P	5921
2292 7590 09/18/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER DHINGRA, PAWANDEEP				
ART UNIT 2625		PAPER NUMBER		
NOTIFICATION DATE 09/18/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/665,529

**Applicant(s)**

YAMAUCHI ET AL.

**Examiner**

PAWANDEEP S. DHINGRA

**Art Unit**

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

#### **DETAILED ACTION**

- This action is responsive to the following communication: Request for continued examination (RCE) filed on 06/16/2008 and Preliminary Amendment filed on 8/29/2008.
- Claims 1-8 are pending.

#### ***Response to Arguments***

Applicant's amendments, filed 06/16/2008 have been entered and fully considered. In light of the applicant's amendments, the rejection(s) have been withdrawn. However, upon further consideration, a new ground(s) of rejection(s) have been made, and applicant's arguments have been rendered moot.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/16/2008 has been entered.

#### ***Examiner Notes***

Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations

are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Numazu et al., US 5,765,082.

Re claim 1, Numazu discloses an image forming apparatus (see figure 1A) comprising: a plurality of image carriers (see 41a, 41b, etc., in figure 1A) arranged in a sheet transporting direction (direction H, see figure 1A); and a transfer unit (see figure 3), which has transfer members (i.e. rollers, see figures 1-3) corresponding to the respective image carriers (see figures 1A and 2A with corresponding text), for transferring images carried on the respective image carriers (see figures 1A and 2A with corresponding text) and a belt suspended from the transfer member (see figures 1-3), wherein the transfer unit has a rotary fulcrum (see element 62,63, figures 1-2) positioned outside the belt (see figures 1-2) and in the vicinity of an extension of the

axis of a transfer member located on one end portion in the sheet transporting direction (see figures 1A and 2A with corresponding text) so as to be approximately parallel to the axis (see figures 1A and 2A with corresponding text), and can be rotated on the rotary fulcrum in directions of moving to and from the image carriers (see figures 1A and 2A), and wherein a distance between any two of the transfer members stays constant during a rotation of the transfer unit (see figures 1A and 2A with corresponding text).

Re claim 2, Numazu discloses the transfer members (i.e. rollers) are movable in directions of moving to and from the image carriers (see figures 1A and 2A with corresponding text).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, and 7 are rejected under 35 U.S.C. 103 as being unpatentable over a Numazu et al., US 5,765,082 In view of Futoshi, JP 9-292753.

Re claim 3, Numazu fails to explicitly disclose the transfer unit includes a supporter for supporting the transfer members, and the supporter has the rotary fulcrum.

However, Futoshi teaches the transfer unit includes a supporter for supporting the transfer members, and the supporter has the rotary fulcrum (see paragraphs 4-11 in US 2004/0062577 and paragraphs 1-22 in Futoshi).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the image forming apparatus as disclosed by Numazu to include the image forming apparatus as taught by Futoshi for the benefit of having a proper image, which is formed by the easy configuration and tuning activity as taught by Futoshi at paragraph 22.

Re claim 5, Numazu further discloses a transfer unit (see figure 1-3) comprising: a plurality of juxtaposed transfer members (see figure 1-3); a belt suspended from the transfer member (see figures 1-3), wherein a rotary fulcrum positioned outside the belt and in the vicinity of an extension of the axis of a transfer member located at one end portion in a direction (see figures 1A and 2A with corresponding text) in which the transfer members are juxtaposed, so as to be approximately parallel to the axis (see figures 1A and 2A with corresponding text), and wherein a distance between any two of the transfer members stays constant during a rotation of the transfer unit (see figures 1A and 2A with corresponding text).

Numazu fails to further disclose a supporter for supporting the transfer members so as to be rotatable and movable in a radial direction, and wherein the supporter has a rotary fulcrum.

However, Futoshi teaches a supporter for supporting the transfer members so as to be rotatable and movable in a radial direction (see paragraphs 4-11 in US 2004/0062577 and paragraphs 1-22 in Futoshi), wherein the supporter has a rotary fulcrum (see paragraphs 4-11 in US 2004/0062577 and paragraphs 1-22 in Futoshi).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the image forming apparatus as disclosed by Numazu to include the image forming apparatus as taught by Futoshi for the benefit of having a proper image, which is formed by the easy configuration and tuning activity as taught by Futoshi at paragraph 22.

Re claim 6, Numazu further discloses the rotary fulcrum is provided separately from any shaft and transfer members (see figures 1A and 2A with corresponding text).

Futoshi also teaches the rotary fulcrum is provided separately from any shaft and transfer members (see paragraphs 4-11 in US 2004/0062577 and paragraphs 1-22 in Futoshi).

Re claim 7, Numazu fails to further disclose the rotary fulcrum is fixed to the supporter.

However, Futoshi further teaches the rotary fulcrum is fixed to the supporter (see paragraphs 4-11 in US 2004/0062577 and paragraphs 1-22 in Futoshi).

5. Claim 4 & 8 is rejected under 35 U.S.C. 103 as being unpatentable over Numazu et al., US 5,765,082 in view of well-known art.

Re claim 4, Numazu further discloses the transfer unit (see figure 3) is rotatable on the rotary fulcrum (elements 63, 62, figure 1A) so that a distance between a first transfer member and an image carrier corresponding to the first transfer member comes to a separated position when the transfer unit is separated from the image carriers (see figures 1A and 2A with text), wherein the first transfer member is adjacent to a second transfer member, the second transfer member being closer to the rotary fulcrum than the first transfer member (see figure 1A).

Numazu does not disclose expressly an image carrier corresponding to the first transfer member comes to between 2.5 mm and 4 mm when the transfer unit is separated from the image carriers, wherein the first transfer member is adjacent to a second transfer member, the second transfer member being closer to the rotary fulcrum than the first transfer member.

However, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to separate the transfer unit with distance between 2.5 mm and 4 mm from the image carriers as an obvious design choice for having the transfer unit separated from the image carriers at a safe distance as desired. One of ordinary skill in the art, would have expected applicant's invention to perform equally well with Numazu's image forming apparatus because Numazu's invention provides the same advantages and solves the same problems illustrated by applicant's invention such that at separated position, the transfer belt only contacts the desired photoconductive



element, hence there would be no rubbing between other photoconductor drums and transfer members or an instance of a poor transfer would ever occur. Furthermore, Mizoguchi et al., US 6,470,166, see column 6, lines 20-27 teaches "In order to protect drum 5a from damage, the contact position of roller 13Y with belt 3 is shifted from the contact position of drum 5a with belt 3 by distance X. This displacement thus avoids contacting drum 5a with roller 13Y via belt 3" (note that again the goal is the same and the distance X can be between 2.5 mm and 4 mm or as desired by the user to serve the same purpose).

Re claim 8, Numazu does not disclose expressly wherein the transfer unit is rotatable between 2° and 3° on the rotary fulcrum.

However, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to rotate the transfer unit between 2° and 3° on the rotary fulcrum as an obvious design choice for having the transfer unit separated from the image carriers at a safe distance. One of ordinary skill in the art, would have expected applicant's invention to perform equally well with Numazu's image forming apparatus because Numazu's invention provides the same advantages and solves the same problems illustrated by applicant's invention such that at separated position, the transfer belt only contacts the desired photoconductive element, hence there would be no rubbing between other photoconductor drums and transfer members or an instance of a poor transfer would ever occur.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAWANDEEP S. DHINGRA whose telephone number is (571)270-1231. The examiner can normally be reached on M-F, 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler L. Haskins can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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